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NEWS 9 JUL 27 CA/CAplus enhanced with new citing references
NEWS 10 JUL 16 GBFULL adds patent backfile data to 1855
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         JUL 21 USGENE adds bibliographic and sequence information
NEWS 12 JUL 28 EPFULL adds first-page images and applicant-cited
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         JUL 28
                INPADOCDB and INPAFAMDB add Russian legal status data
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                 CAS REGISTRY, the Global Standard for Chemical
                 Research, Approaches 50 Millionth Registration
NEWS 16
         AUG 18
                COMPENDEX indexing changed for the Corporate Source
                 (CS) field
NEWS 17 AUG 24 ENCOMPLIT/ENCOMPLIT2 reloaded and enhanced
NEWS 18 AUG 24 CA/Caplus enhanced with legal status information for
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STRUCTURE FILE UPDATES: 4 SEP 2009 HIGHEST RN 1180743-67-2 DICTIONARY FILE UPDATES: 4 SEP 2009 HIGHEST RN 1180743-67-2

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=> s ibandronic

L1 1 IBANDRONIC

=> d 11

- ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN
- RN 114084-78-5 REGISTRY
- Entered STN: 23 Apr 1988 ED
- CN Phosphonic acid, P.P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-(CA INDEX NAME)

OTHER CA INDEX NAMES:

- CN Phosphonic acid, [1-hydroxy-3-(methylpentylamino)propylidene]bis- (9CI) OTHER NAMES:
- CN BPH 24
- CN Ibandronate
- CN Ibandronic acid C9 H23 N O7 P2
- [1-Hydroxy-3-(methylpentylamino)propylidene]diphosphonic acid CN
- COM
- MF CA

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LC STN Files: ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, BIOSIS, BIOTECHNO,
       CA, CAPLUS, CASREACT, CBNB, CHEMCATS, CIN, CSCHEM, DDFU, DRUGU, EMBASE,
       IMSDRUGNEWS, IMSPATENTS, IMSPRODUCT, IMSRESEARCH, IPA, MEDLINE, MRCK*,
       PHAR, PROMT, PROUSDDR, PS, RTECS*, SYNTHLINE, TOXCENTER, USAN, USPAT2,
       USPATFULL
         (*File contains numerically searchable property data)
     Other Sources: WHO
       ОН
                  Ме
H2O3P C CH2 CH2 N (CH2) 4 Me
      PO3H2
**PROPERTY DATA AVAILABLE IN THE 'PROP' FORMAT**
             723 REFERENCES IN FILE CA (1907 TO DATE)
              29 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
             726 REFERENCES IN FILE CAPLUS (1907 TO DATE)
=> s ibandronic sodium
             1 IBANDRONIC
        344247 SODTUM
L2
             O TRANDRONIC SODIUM
                 (IBANDRONIC (W) SODIUM)
=> s 138844-81-2
             1 138844-81-2
L3
                 (138844-81-2/RN)
=> s 138926-19-9
T. 4
             1 138926-19-9
                 (138926-19-9/RN)
=> d 13
1.3
    ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN
RN
    138844-81-2 REGISTRY
ED
   Entered STN: 07 Feb 1992
     Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-,
     sodium salt (1:1) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN
   Phosphonic acid, [1-hydroxy-3-(methylpentylamino)propylidene]bis-,
     monosodium salt (9CI)
OTHER NAMES:
CN
   BM 21.0955
     BM 21.0955Na
CN
CN
     Bondronat
CN
    Bondronate
CN
    Boniva
CN
    Bonviva
CN
    Ibandronate sodium
ME
    C9 H23 N O7 P2 . Na
CT
    COM
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SR CA
LC STN Files: ADISINSIGHT, ADISNEWS, ANABSTR, BIOSIS, BIOTECHNO, CA,
CAPLUS, CASREACT, CHEMCATS, CIN, DDFU, DRUGU, EMBASE, IMSCOSEARCH,
IMSPATENTS, IMSRESSARCH, MRCK\*, PROMT, PROUSDDR, PS, SYNTHLINE,
TOXCENTER, USPATFULL
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CRN (114084-78-5)

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87 REFERENCES IN FILE CA (1907 TO DATE) 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA 87 REFERENCES IN FILE CAPLUS (1907 TO DATE)

=> d 2

1 ANSWERS ARE AVAILABLE. SPECIFIED ANSWER NUMBER EXCEEDS ANSWER SET SIZE The answer numbers requested are not in the answer set. ENTER ANSWER NUMBER OR RANGE (1):end

=> d 14 1

L4 ANSWER 1 OF 1 REGISTRY COPYRIGHT 2009 ACS on STN

RN 138926-19-9 REGISTRY

ED Entered STN: 14 Feb 1992

CN Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-, sodium salt, hydrate (1:1:1) (CA INDEX NAME)
OTHER CA INDEX NAMES:

CN Phosphonic acid, [1-hydroxy-3-(methylpentylamino)propylidene]bis-, monosodium salt, monohydrate (9CI)

OTHER NAMES:

CN BM 21.0955Na.H20

CN Ibandronate sodium monohydrate

CN Monosodium ibandronate monohydrate

MF C9 H23 N O7 P2 . H2 O . Na

SR CAS Client Services

LC STN Files: ADISINSIGHT, BIOTECHNO, CA, CAPLUS, CASREACT, CBNB, CHEMCATS, CSCHEM, EMBASE, IMSPATENTS, IMSRESEARCH, MRCK\*, PATDPASPC, PROUSDDR, PS, SYNTHLINE, TOXCENTER, USBN, USPATZ, USPATFULI

(\*File contains numerically searchable property data)

CRN (114084-78-5)

Na

H2O

25 REFERENCES IN FILE CA (1907 TO DATE)
25 REFERENCES IN FILE CAPLUS (1907 TO DATE)

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FILE COVERS 1907 - 6 Sep 2009 VOL 151 ISS 11
FILE LAST UPDATED: 4 Sep 2009 (20090904/ED)
REVISED CLASS FIELDS (/NCL) LAST RELOADED: Jun 2009
USPIO MANUAL OF CLASSIFICATIONS THESAURUS ISSUE DATE: Jun 2009

CAplus now includes complete International Patent Classification (IPC) reclassification data for the third quarter of 2009.

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http://www.cas.org/legal/infopolicy.html

This file contains CAS Registry Numbers for easy and accurate substance identification.

The ALL, BIB, MAX, and STD display formats in the CA/CAplus family of databases have been updated to include new citing references information. This enhancement may impact record import into database management software. For additional information, refer to NEWS 9.

=> s 13 or 14 87 L3 25 L4 106 L3 OR L4 L5 => s amorphous 301133 AMORPHOUS => s 15 and 16

L7 5 L5 AND L6

=> d 17 fbib ab hitstr 1-5

L7 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

2009:876533 CAPLUS AN 151:181953

DN

TI Solid and crystalline ibandronate sodium and processes for preparation thereof

Lifshitz-Liron, Revital; Bayer, Thomas; Aronhime, Judith; Pinchasov, Michael

PA Teva Pharmaceutical Industries Ltd., Israel

U.S., 32pp., Cont. of U.S. Ser. No. 410,825. now abandoned. SO CODEN: USXXAM

Patent DT

LA English

FAN.	CNT	2																				
	PAT	ENT	NO.			KIN	D	DATE			API	PLI	CAT	ION	NO.			DATE				
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	US	2007	0179	119		A1		2007	0802													
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											US	20	06-	4108	25		В1	20	060	42	4	
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											US	20	05-	6908	67P		P	20	050	616	ŝ	
											EΡ	20	05-	7911	42		A	20	050	823	3	
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	EP	1930	011			A3		2008	0618													
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											US	20	05-	6908	67P		P	20	050	616	5	
											ΕP	20	05-	7911	42		A3	20	050	823	3	

PATENT FAMILY INFORMATION:

PAN	PATENT NO.	KIND DATE	APPLICATION NO.	DATE			
PI	WO 2006024024	A2 20060302	WO 2005-US30500	20050823			
	WO 2006024024	A3 20060629					
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											, MG,						
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											, MR,						
					RU,			SD,	SL,	SZ	, TZ,	UG,	ZM,	ZW,	AM	, AZ,	BI,
		NG,	NA,	riD,	NU,	10,	111			IIS.	2004-	รก4ก	26P		P	20040	823
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						F.T'	RO,	MK,	CY,	AL	, TR,	BG,	CZ,	EE,	HU	, PL,	SK,
		BA,	HR,	15,	10					ITC.	2004-	6040	260		P	20040	023
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											2005-					20050	
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										WO	2005-1	US30	500		W	20050	823
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	1930				A3		2008										
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											2004-		26P			20040	
											2005-					20050	
											2005-					20050	
KR	2007	0430	43		A		2007	0424			2007-					20070	
											2004-					20040	
											2005-					20050	
										WO	2005-1	US30	500		W	20050	823

AB The present invention relates to solid amorphous and crystalline forms of ibandronate sodium. Thus, a solution of NaOH (0.63 g) in water/isopropanol (IPA) was added dropwise to a solution of amorphous ibandronic acid (5 g) in water/IPA at reflux temperature, and the reaction mixture

maintained at reflux temperature for 4 h to obtain a pH of 3.93-4.01. The reaction mixture was then cooled to room temperature, stirred for 72 h, and further cooled using an ice-bath. The precipitate was filtered, washed, and dried in a vacuum oven at 50° to give 4.4 g of ibandronate sodium

crystal form F.

138844-81-2P, Ibandronate sodium

RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(preparation of solid amorphous and crystalline ibandronate sodium)

RN 138844-81-2 CAPLUS

CN Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-, sodium salt (1:1) (CA INDEX NAME)

$$\begin{array}{c|ccccc} \text{OH} & \text{Me} & \\ & & & \\ \text{H}_2\text{O}_3\text{P}-\text{C}-\text{CH}_2-\text{CH}_2-\text{N}-\text{(CH}_2)}_4-\text{Me} \\ & & \\ & & \\ \text{PO}_3\text{H}_2 & \end{array}$$

## Na

- THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS) RE.CNT 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT
- ANSWER 2 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN L7
- AN 2007:724495 CAPLUS
- DN 147:125584
- ΤI Novel polymorphic forms of ibandronate for tablets
- Reddy, Muddasani Pulla; Usharani, Vattikuti; Chowdary, Nannapaneni IN Venkalah
- PA Natco Pharma Limited, India
- SO PCT Int. Appl., 15 pp.
- CODEN: PIXXD2
- DT Patent LA English

CNT 1																	
PATENT I	.OV			KIN	D	DATE			APPL	ICAT	ION :	NO.		D.	ATE		
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WO 2007	0744	75		A2		2007	0705		WO 2	006-	IN50	1		20061221			
WO 2007	0744	75		A3		2007	0907										
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	GM,	KE,	LS,	MW,	MZ,	NA,	SD,	SL,	SZ,	TZ,	UG,	ZM,	ZW,	AM,	AZ,	BY,	
	KG,	ΚZ,	MD,	RU,	ΤJ,	TM,	ΑP,	EA,	EP,	OA							
	PATENT 1	PATENT NO WO 20070744 WO 20070744 W: AE, CN, GE, KP, MN, RS, TZ, RW: AT, IS, CF, GM,	PATENT NO.  MO 2007074475 WO 2007074475 W1 AE, AG, CM, CO, GE, GH, RP, RR, RS, RU, TZ, UA, RW: AT, BE, CF, CG, GM, KE, KM,	PATENT NO.  WO 2007074475 WO 2007074475 WI AE, AG, AL, CM, CO, CR, GE, GH, GM, KF, KR, KZ, NN, MW, MY, CZ, UA, UG, RW: AT, BE, BG, SI, TI, LT, CF, CG, CI, GM, KE, LG, KE, KG, KE, LG, KE, KE, KE, KE, KE, KE, KE, KE, KE, KE	PATENT NO.	PATENT NO. KIND	PATENT NO. KIND DATE  MC 2007074475 A2 2007  W1 AE, AG, AL, AM, AT, AU, CN, CO, CR, CU, C2, DE, GE, GH, GM, GT, HN, HR, KP, RR, RZ, LA, LC, LK, MN, MM, MK, MY, MZ, NA, RS, RU, SC, SD, SE, SG, TZ, UA, UG, US, UZ, VC, RM: AT, BE, BG, CH, CY, CZ, LS, LT, LU, LV, CF, CG, CI, CM, GA, GN, KE, LS, MM, MZ, NA, GM, KE, LS, MM, MZ, NA,	PATENT NO. KIND DATE  MC 2007074475 A2 20070705  W1 AE, AG, AL, AM, AT, AU, AZ, CM, CO, CR, CU, CZ, DE, DK, GE, GH, GM, GT, HN, HR, HU, RP, RR, KZ, LA, LC, LK, LR, MN, MM, MX, MY, MZ, MA, NG, RS, RU, SC, SD, SE, SG, SK, TZ, UA, UG, US, UZ, VC, VN, RW: AT, BE, BG, CH, CY, CZ, DE, IS, IT, LT, LU, LV, MC, NL, CF, CG, CI, CM, GA, GN, GO, GM, KE, LS, MM, MZ, NA, SD,	PATENT NO. KIND DATE  \[ \text{MC 2007074475}  \text{A2 20070705} \\  \text{MC 2007074475}  \text{A3 20070907} \\  MC A3 AB, AB, AT, AU, AZ, BA, CM, CC, CR, CU, CZ, DE, DK, DM, GE, GH, GM, GT, HM, HR, HU, ID, KP, KR, KZ, LA, LC, LK, LR, LS, NM, MW, MW, MM, MM, AM, AR, AR, MG, NI, RS, RU, SC, SD, SE, SG, SK, SL, TZ, UA, UG, US, UZ, VC, VN, ZA, RW: AT, BE, BG, CH, CY, CZ, DE, DK, IS, IT, LT, LU, LV, MC, NL, PH, CF, CG, CI, CM, GA, GN, GQ, GW, GM, KE, LS, MW, MM, NA, SD, SI,  \text{GG, GW, KE, LS, MW, MM, NA, SD, SI,  \text{CG, GW, KE, LS, MW, MM, NA, SD, SI,  \text{CG, GW, KE, LS, MW, MM, NA, SD, SI,  \text{CG, GW, KE, LS, MW, MM, NA, SD, SI,  \text{CG, MM, CR, LS, MW, MM, NA, SD, SI,  \text{CG, CI, CM, GA, GN, GD, GW, CG, MM, \text{CG, CG, CI, CM, GA, GN, GD, GW, CG, CM, AB, CD, SI, CM, CM, AB, CM, CM, CM, CM, CM, CM, CM, CM, CM, CM	PATENT NO.   KIND   DATE   APPL	PATENT NO. KIND DATE APPLICAT  WO 2007074475 A2 20070705 WO 2006- WO 2007074475 A3 20070907  WI AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, GE, GH, GM, GT, HN, HR, HU, ID, II, IN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, MN, MM, MX, MX, MY, MZ, NA, NG, NI, NO, NZ, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW  RN: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, CF, CG, CI, CM, GA, GO, GW, ML, MR,	PATENT NO. KIND DATE APPLICATION  MC 2007074475 A2 20070705 WC 2006-IN50 WC 2007074475 A3 20070907  N: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EG, GG, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, RF, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, MN, MM, MX, MX, MX, MX, NA, NG, NI, NO, NZ, OM, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, GM, KE, LS, MM, MZ, NA, SD, SL, SZ, TZ, UE,	PATENT NO. KIND DATE APPLICATION NO.  MC 2007074475 A2 20070705 WC 2006-IN501  W1: AE AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, RP, RR, KZ, LA, LC, LK, LK, LS, LT, LU, LV, LY, MN, MM, MX, MX, MY, MZ, MA, NG, NI, NO, NZ, CM, PG, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, JJ, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW  RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, CF, CG, CI, CM, GA, GN, GO, GW, ML, MR, NE, SN, GM, KE, LS, MM, MZ, NA, SD, SL, SZ, TZ, UG, ZM,	PATENT NO. KIND DATE APPLICATION NO.  MC 2007074475 A2 20070795 WC 2006-IN501  M1: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, GE, GH, GM, GT, HM, HR, HU, ID, IL, IM, IS, JP, KE, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MN, MM, MX, MY, MY, MA, MA, NG, NI, NO, NZ, OM, PG, PH, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW  RN: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, IS, IT, LT, LU, LV, CM, CC, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, GM, KE, LS, MW, MZ, NA, SD, SI, SZ, TZ, UG, ZM, ZW,	PATENT NO.	PATENT NO.   KIND   DATE   APPLICATION NO.   DATE	

IN 2005-CH1936 A 20051227 IN 2005-CH1936 20051227

AB The present invention relates to novel and stable polymorphic forms of ibandronate monosodium monohydrate and processes for their preparation and pharmaceutical compns. containing them, such as tablets. Ibandronate monosodium monohydrate is useful as bone resorption inhibitor. The novel crystalline forms are designated as Form I, Form II and the amorphous ibandronate monosodium monohydrate as Form III. Thus, the reaction of 100 q of 3-(N-methyl-N-pentylamino)propionic acid-HCl and 49 q of crystalline phosphorous acid at 75°, followed by the addition of phosphorous trichloride and adjusting the pH to 4.3-4.4 using NaOH vielded 145 g of ibandronate. Ibandronate prepared (25 g) was dissolved in 200 mL of water, water was distilled of from the reaction mass and 100 mL of fresh water was added. The reaction mass was treated with 2 q of carbon and filtered. To the filtrate 200 mL of acetone were added at 50-60° resulting in immediate crystallization of ibandronate. The reaction mass was cooled to 25° and maintained for 1 h before filtration. The wet solid was washed with acetone and dried at 60° to get 20 g of Form I crystals of ibandronate monosodium monohydrate. Form I crystals of ibandronate monosodium monohydrate prepared were formulated into tablets containing equivalent

20070720

to 150 mg of ibandronic acid per single dosage unit.

IT 138926-19-9P, Ibandronate sodium monohydrate

RL: PEP (Physical, engineering or chemical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(preparation of polymorphic forms of ibandronate monosodium monohydrate for tablets)

RN 138926-19-9 CAPLUS

TN 2005CH01936

CN Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-, sodium salt, hydrate (1:1:1) (CA INDEX NAME)

Na

● H2O

## OSC.G 2 THERE ARE 2 CAPLUS RECORDS THAT CITE THIS RECORD (2 CITINGS)

L7 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN

AN 2006:333490 CAPLUS

DN 144:338225

TI Preparation of solid and crystalline ibandronate sodium

IN Lifshitz-Liron, Revital; Bayer, Thomas; Aronhime, Judith

PA Teva Pharmaceutical Industries Ltd., Israel; Teva Pharmaceutical Usa, Inc.

SO PCT Int. Appl., 67 pp.

CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 2

FAN.	PA:	Z FENT 1				KIN		DATE				LICA					DATE			
PI	WO	2006	0240	24		A2 A3		2006	0302			2005						0050		
		W:	CN, GE, LC, NG, SL,	CO, GH, LK,	CR, GM, LR, NO, SY,	CU, HR, LS, NZ,	CZ, HU, LT, OM,	AU, DE, ID, LU, PG, TN,	DK, IL, LV, PH,	DM, IN, MA, PL,	DZ IS MD	, EC	, El	Ε, Ε, Κ,	EG, KG, MN, SC,	ES, KM, MW, SD,	FI, KP, MX, SE,	GB, KR, MZ, SG,	GD, KZ, NA, SK,	
		RW:	IS, CF, GM,	IT, CG, KE,	LT, CI, LS,	LU, CM,	LV, GA, MZ,	CZ, MC, GN, NA, TM	NL, GQ,	PL, GW, SL,	PT ML SZ	, RC , MF	, SI	Ε, Ε, G,	SI, SN, ZM,	SK, TD, ZW,	TR, TG, AM,	BF, BW, AZ,	BJ, GH, BY,	
												2004						0040 0050		
	CA	2576	659			A1		2006	0302		US US	2005 2004 2005 2005	-60 -69	402 086	6P 7P		P 2	0050 0040 0050 0050	823 616	
	EP	1713 R:	AT, IE,		LT,	LV,		2006 ES, RO,	FR,	GB, CY,	GF	, TF	, L	Ι,	LU, CZ,	EE,	SE, HU,	PL,	PT, SK,	
	JP	2007	5122	37		т		2007	0517		US WO	2004 2005 2005 2006	-69 -US	086 305	7P		P 2 W 2	0040 0050 0050 0050	616 823	
	CN	1010	2281	2		A		2007	n <b>8</b> 2 2		US WO	2004 2005 2005 2005	-69 -US	086 305	7P 500		P 2 W 2	0040 0050 0050 0050	616 823	
											US US WO	2004 2005 2005	-60 -69 -US	402 086 305	6P 7P 000		P 2 P 2 W 2	0040 0050 0050	823 616 823	
	DE	2020	0502	1414		U1		2008	0424		US US	2005 2004 2005 2005	-60 -69	402 086	6P 7P		P 2	0050 0040 0050 0050	823 616	
		1930 1930	011	DE	D.C.	A2 A3	CV	2008	0618			2008			ED	CD		0050		
		R:						CZ, LV,		NL,	PL US US		-60 -69	0, 402 086	SE, 6P 7P	SI,	SK, P 2 P 2		823 616	
	IN	2007	DN00	555		Α		2007	0817		US	2007 2004 2005	-60	402			2	0070 0040 0050	122 823	
	MX	2007	0022	86		A		2008	0828		MX	2007	-22	86			2	0070 0040 0050	222	

	KR 2007043043							A 20070				WO 2005-US30500 KR 2007-705922 US 2004-604026P US 2005-690867P WO 2005-US30500						20 20 20	0703 0403 0506	314 323 516	
PATE					ATIO	N:							,00	0000	500					223	
FAN	PATENT NO.							DATE					ION					TE			
ΡI	US	756	3918 70179			В2		2009	0721		US	20	06-	6445	68			20	061	222	
											US	20	04-	6040	26P		P	20	040	323	
											US	20	005-	6908 2110	67P		P	20	0500	516	
														2110 4108							
	DE	202	00502	1414		111		2008	0424					2020							
														6040							
											US	20	05-	6908	67P		P	20	0506	516	
											ΕP	20	05-	7911	42		Α				
			0011								ΕP	20	08-	2626				20	050	323	
	EP		0011																		
		R:	ΑT,																		
			IS,	IT,	LI,	LT,	LU,	LV,	MC,												
														6040							
														6908							
														7911						323	
AB	The	e pr	esent	ınv	enti	ion relates to sol					olid amorphous and cryst							alline			

- AB The present invention relates to solid amorphous and crystalline forms of ibandronate sodium. Thus, ibandronate sodium was dissolved in DMSO and 1-butanol was added to it, and the precipitate was isolated by vacuum filtration, washed with 1-butanol and dried at 50° to obtain ibandronate sodium crystal form C.
- IT 138844-81-2P

RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(preparation of solid amorphous and crystalline forms of ibandronate sodium)

- RN 138844-81-2 CAPLUS
- CN Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-, sodium salt (1:1) (CA INDEX NAME)

# Na

- OSC.G 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
  RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
  ALL CITATIONS AVAILABLE IN THE RE FORMAT
- L7 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN AN 2006:11476 CAPLUS

- DN 144:94242
- TI Solid and crystalline ibandronic acid
- IN Bayer, Thomas; Dolitzky, Ben-Zion; Lifshitz-Liron, Revital; Perutski, Inna; Pinchasov, Michael
- PA Teva Pharmaceutical Industries Ltd., Israel; Teva Pharmaceutical USA, Inc. SO PCT Int. Appl., 67 pp.
- CODEN: PIXXD2
- DT Patent LA English

LA	English CNT 1						
E Palv.	PATENT NO.	KIND DATE	APPLICATION NO.	DATE			
PΙ	WO 2006002348	A2 20060105	WO 2005-US22410	20050623			
	WO 2006002348 W: AE. AG. AI	A3 20060504	BA, BB, BG, BR, BW,	BY BZ CA CH			
			DM, DZ, EC, EE, EG,				
			IN, IS, JP, KE, KG,				
			MA, MD, MG, MK, MN,				
			PL, PT, RO, RU, SC,				
	ZA, ZM, ZV		TT, TZ, UA, UG, US,	UZ, VC, VN, 1U,			
			DK, EE, ES, FI, FR,	GB, GR, HU, IE,			
			PT, RO, SE, SI, SK,				
			ML, MR, NE, SN, TD,				
	KE, LS, MV KZ, MD, RU		SZ, TZ, UG, ZM, ZW,	AM, AZ, BY, KG,			
	KZ, FID, KC	o, 10, 111	US 2004-582500P	P 20040623			
			US 2004-620016P	P 20041018			
			US 2005-690868P	P 20050616			
	CA 2571433	A1 20060105	CA 2005-2571433	20050623			
			US 2004-582500P US 2004-620016P	P 20040623 P 20041018			
			US 2005-690868P	P 20050616			
			WO 2005-US22410	W 20050623			
	EP 1687007	A2 20060809		20050623			
			GB, GR, IT, LI, LU, CY, AL, TR, BG, CZ,				
	BA, HR, IS		C1, AL, IK, BG, C2,	EE, HU, FL, SK,			
	,,	-,	US 2004-582500P	P 20040623			
			US 2004-620016P	P 20041018			
			US 2005-690868P WO 2005-US22410	P 20050616 W 20050623			
	US 20070161606	A1 20070712	US 2006-525804	20060922			
	US 7511174	B2 20090331					
			US 2004-582500P	P 20040623			
			US 2004-620016P	P 20041018 P 20050616			
			US 2005-690868P US 2005-165481	B1 20050622			
			US 2006-331995	B1 20060112			
	IN 2006DN07758	A 20070817	IN 2006-DN7758	20061220			
			US 2004-582500P	P 20040623			
	MX 2007000087	A 20071106	WO 2005-US22410 MX 2007-87	W 20050623 20061220			
	FIA 200/00000/	A 200/1106	US 2004-582500P	P 20040623			
			US 2004-620016P	P 20041018			
			US 2005-690868P	P 20050616			
		2.2 00000000	WO 2005-US22410	W 20050623			
	US 20090023949	A1 20090122	US 2008-218197	20080710			

288025 582500P P 620016P P 690868P P 165481 B1	20060922 20081015 20040623 20041018 20050616 20050622
	582500P P 520016P P 590868P P 165481 B1 331995 B1

AB Provided are novel crystalline and amorphous forms of ibandronic acid, methods for their preparation, and pharmaceutical compns. containing them.

Also provided are methods for purifying and assaying ibandronic acid in any crystalline form (or amorphous). Amorphous ibandronic acid was prepared by drying a solution and a crystal form S1 prepared from the amorphous form by adding acetone to a solution

138844-81-2P RL: PRP (Properties); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)

(solid and crystalline ibandronic acid)

138844-81-2 CAPLUS

тт

CN Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-, sodium salt (1:1) (CA INDEX NAME)

## Na

OSC. G THERE ARE 8 CAPLUS RECORDS THAT CITE THIS RECORD (8 CITINGS) RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD ALL CITATIONS AVAILABLE IN THE RE FORMAT

- L7 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2009 ACS on STN
- AN 2005:612312 CAPLUS
- DN 143:97528
- ΤI An improved process for the preparation of alkyl- and aryl-substituted α-hydroxy-1,1-ethanediphosphonic acids and salts thereof by solvent-free reaction of carboxylic acids with phosphorous acid and phosphorus oxychloride
- IN Grassi, Simona; Volante, Anna
- PA Lvogen Limited, Cyprus
- SO PCT Int. Appl., 9 pp.
- CODEN: PIXXD2
- Pat.ent.
- LA English
- FAN. CNT 1

PATENT NO.								APPLICATION NO.										
WO	2005	0637	79		A2	20050714 20050929												
	W:	AE, CN, GE, LK, NO, TJ, BW, AZ, EE, RO,	AG, CO, GH, LR, NZ, TM, GH, BY, ES,	AL, CR, GM, LS, OM, TN, GM, KG, FI, SI,	AM, CU, HR, LT, PG, TR, KE, KZ, FR, SK,	AT, CZ, HU, LU, PH, TT, LS, MD, GB, TR,	AU, DE, ID, LV, PL, TZ, MW, RU, GR,	AZ, DK, IL, MA, PT, UA, MZ, TJ, HU,	BA, DM, IN, MD, RO, UG, NA, TM, IE, CF,	DZ IS MG RU US SD AT IS CG	, BG, , EC, , JP, , MK, , SC, , UZ, , SL, , BE, , IT, , CI,	EE, KE, MN, SD, VC, SZ, BG, LT, CM,	EG, KG, MW, SE, VN, TZ, CH, LU, GA,	ES, KP, MX, SG, YU, UG, CY, MC, GN,	FI, KR, MZ, SK, ZM, CZ, NL, GQ,	GB, KZ, NA, SL, ZM, ZW, DE, GW,	GD, LC, NI, SY, ZW AM, DK, PT, ML,	
										IT	2004-	MI80	02		A 2	0040	122	
IT	20041	00IM	80		A1		2004	0422		IT	2004-	MI80	230		2	0040	122	
CA	2331.	230			AI		2005	0,14		IT IT	2004- 2004- 2004- 2004-	MI25 MI80	82		A 2 A 2	0031 0040 0041	223 122	
EP	1716	161			A2		2006	1102			2004-					0041		
	R:								BG,	CZ	, IT, , EE, 2003-	HU,	PL,	SK,	IS	0031	223	
US	2007	0112	197		A1		2007				2004- 2004- 2006- 2003- 2004- 2004-							

CASREACT 143:97528; MARPAT 143:97528

α-Hydroxy-1,1-ethanediphosphonic acids R(CH2)mC(OH)[PO(OH)2]2 [m = 1-8; R = dialkylamino or 5- or 6-membered (hetero)aryl, preferably imidazolyl and pyridinyl], preferably risedronic, zoledronic and ibandronic acids, useful in therapy as inhibitors of bone reabsorption (no data) were prepared by reaction carboxylic acids R(CH2)mCOOH (same m, R) with 2-4 equiv of POCl3 and 8-12 equiv of H3PO3, preferably the carboxylic acid:POC13:H3PO3 ratio is 1:3:10. In an example, addition of 0.19 mol of POC13 to a mixture of 0.06 mol of (3-pyridiny1) acetic acid and 0.58 mol of H3PO3 followed by stirring at 60-70° for 24 h with subsequent aqueous work-up gave 1-hydroxy-2-(3-pyridinyl)-1,1-ethanediphosphonic acid (risedronic acid) in 60% yield. Amorphous monosodium salt of 1-hydroxy-2-[(methyl)(pentyl)amino]-1,1-1,1-ethanediphosphonic acid (monosodium ibandronate), useful in the pharmaceutical use due of its increased bioavailability (no data) was prepared by neutralization of 10 g of analogously prepared ibandronic acid in 200 mL of water by 1M NaOH to pH 4.3-4.4 and lyophilization of the resulting solution

IT 138844-81-2DP, amorphous

RL: SPN (Synthetic preparation); PREP (Preparation)

(improved process for preparation of  $\alpha$ -hydroxy-1,1-ethanediphosphonic acids by solvent-free phosphonation of carboxylic acids by phosphorous acid and phosphorus oxychloride)

RN 138844-81-2 CAPLUS

Phosphonic acid, P,P'-[1-hydroxy-3-(methylpentylamino)propylidene]bis-, sodium salt (1:1) (CA INDEX NAME)

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PΤ

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AB

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OSC.G 4 THERE ARE 4 CAPLUS RECORDS THAT CITE THIS RECORD (4 CITINGS)
RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT